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A READING SPECIALIST LOOKS AT LINGUISTICS.

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THE RELATIONSHIP OF LINGUISTICS TO THE TEACHING OF READING IS DESCRIBED. FOUR MAJOR PRINCIPLES ON WHICH LINGUISTS SEEM TO AGREE ARE OUTLINED--(1) SPEECH IS LANGUAGE, WHILE PRINT IS ONLY THE REPRESENTATION OF LANGUAGE. (2) LANGUAGE IS SYSTEMATIC, NOT HAPHAZARD OR RANDOM, AND CONSEQUENTLY CAN BE STUDIED IN A SYSTEMATIC FASHION. (3) LANGUAGE IS HABITUAL, AND ONE DEVELOPS SKILL IN A LANGUAGE BY OPERATING WITHIN IT, NOT BY LEARNING ITS RULES. (4) THE TYPICAL SCHOOL-AGE CHILD HAS ALREADY MASTERED THE SOUNDS AND BASIC SENTENCE PATTERNS OF HIS NATIVE LANGUAGE. THE SUCCESS OF THE CRITICAL ACT OF APPLYING THESE PRINCIPLES TO THE TEACHING OF READING DEPENDS ON THE COOPERATION BETWEEN LINGUISTS AND READING SPECIALISTS. TO ILLUSTRATE THE DIFFERENCE BETWEEN THE TWO GROUPS, THE CONTENT OF LINGUISTICS MATERIALS IS CONTRASTED WITH THE CONTENT OF TYPICAL BASAL READERS. LINGUISTS SHOULD HELP TEACHERS OF READING TO UNDERSTAND THE STRUCTURE OF THE LANGUAGE AND HOW IT FUNCTIONS SO THAT THEY CAN TEACH READING MORE EFFECTIVELY. A BIBLIOGRAPHY IS GIVEN. (RH)

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# A Reading Specialist Looks at Linguistics

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Linguists are new to the field of reading; so new, in fact, that Harold Allen's Readings in Applied English Linguistics (1), published in 1958, contained no article on linguistic applications to the teaching of reading, and the 1961 N.S.S.E. Yearbook, Development In and Through Reading (2), contained no article on linguistics. From this standpoint, it would be premature--and a little foolhardy--to condemn the linguists on the basis of today's efforts in reading. It might be doubly foolhardy in view of the slow progress and the limited knowledge about reading that the reading specialists have contributed. Hence, our purpose in this article is to analyze and compare, to see where the main-stream of reading teaching and the linguists might agree or differ, to criticize either where they deserve criticism, and maybe even to offer some constructive comments.

SOME LINGUISTIC PRINCIPLES

As with members of any young science, linguists are not in agreement about the specifics of their field. For example, ask several linguists how many simple vowels there are in English, and you may get answers varying from eight to twelve. On the other hand, there are certain general principles about which linguists are in agreement. Let's examine four of the major ones which have implications for the teaching of reading.

First is the oft repeated point: speech is the language; print is only the representation of language. This principle is not a value judgment, indicating that the spoken word is better or more important than the printed word, nor is it a quibble, trying to establish arbitrary and insignificant definitions. I know, as you do, that a few reading specialists have been telling us for years that print is "talk written down," but the linguists' point goes deeper; it is analogous to the number/numeral distinction in math.

As educated adults, engulfed in print, we too often behave as if we believe the reverse to be true, as if the spoken word were the representation of print. Otherwise how could we have newspaper columns like Sid Harris', written about a spelling-based pronunciation--"there is no 'pair' in 'irreparable,'" "... no 'spite' in 'respite,'" etc., etc.? Or how could we talk about "silent letters"? (Aren't they all?) Or how could we talk about the "true" meaning of a word?

A second principle from linguistics is the point that language is systematic; it is not haphazard or random. Because it is structured, language can be studied in a systematic fashion. The linguist usually approaches the language in terms of three levels of analysis: phonological, morphological, and syntactical.

Let's consider just a few subpoints from this principle. In terms of phonology, the linguist points out that English is an alphabetic language as opposed to being pictographic or logographic. In reference to this feature, reading specialists have carelessly called our language "phonetic," but in essence both linguists and reading specialists are talking about the correspondence between symbol and sound, whether this relationship is called "grapheme-phoneme correspondence" or "letter-sound association." The degree to which this correspondence approaches identity will be discussed later.

A second subpoint, as the linguist discusses morphology and syntax, relates to his meaning of "meaning." Most often, when a linguist discusses "meaning" he is referring to structural meaning, not lexical or semantic meaning. For example, he might be concerned, in the case of the -s morpheme, with its "meaning" as a clue, along with syntax, to the identification of a noun.

A third important principle, and one which some reading programs violate thoroughly, is that language is habitual. That is, one develops skill in a language by operating within it, not by talking about it or by learning rules that supposedly codify it.

Finally, we are told by linguists that the typical school-age child has already mastered the sounds and basic sentence patterns of his native language. This has been researched by people like Hunt (3), Strickland (4), O'Donnell (5), and Loban (6). In fact, Loban followed children from kindergarten through grade six and found "Not basic sentence pattern but what is done to achieve flexibility within pattern proves to be a measure of proficiency with language at this level" (6, p. 88). In other words, younger children used all of the different patterns that older children used, the

difference being that the younger children did not handle as many combinations at the same time.

We have briefly outlined four major principles on which linguists seem to agree. I think we would find it difficult to argue with any one of them. The critical act, however, is the application of these principles to the teaching of reading. Since some linguists have put themselves in the position of becoming amateur reading specialists, it behooves the reading specialist to become an amateur linguist. Now is the time for both parties to do their homework. In what ways has the linguist ignored what we know about reading--or failed to apply his own principles to the teaching of reading; in what ways has the reading specialist ignored what the linguist has shown him about language--or failed to apply existing knowledge about the teaching of reading? Let's take a look at both.

In the typical basal reading program we find pupil books, teacher guides, and workbooks. Linguistic programs--considering Merrill (7), S.R.A. (8), and Harper (9), as a sample--essentially follow this format.

The Merrill program by Fries begins with an alphabet book, which takes children from the level of visual discrimination to letter names to sequence of letters in the alphabet. The preprimers are designed to develop mastery of five simple vowels as represented by their common spelling in a one syllable word. These are the "short" vowels to the reading teacher, or the vowel phonemes heard in pit, pet, pat, pot, and putt.

Content of these linguistic materials differs in several respects from the typical basal readers. Instead of the "vocabulary control" of the basal reader, designed to provide frequent repetition of common words and a paced introduction of new words, the linguistic readers provide that might be

called a "phonemic control." These differences in viewpoint lead to obvious differences in story content in the initial books: the basal readers are about familiar situations, written with a limited vocabulary. The story line is carried by picture and oral context presented by the teacher. The linguistic books sacrifice story line for phonemic control to arrive at "The cat can bat the pan" (7), "Nan ran to fan the man" (8), or "Pud in the mud" (9).

Linguists hope to develop grapheme--phoneme associations for the simple vowels inductively through exposure to consistently patterned words. The words are introduced prior to the reading lesson, usually through a "spell-and-tell" technique (7, 8) or with the quiz-game approach of Ginn (9). Harper also uses directions such as having children find a new word spoken by the teacher by picking the printed wordcard "with the most letters in it."

Basal readers begin with emphasis on consonants. The linguist's emphasis on vowels may remind us of some synthetic phonics programs, but I would not classify them in the same camp for two reasons: first, the linguist is developing the vowel generalization in whole words, not in isolation (all three programs admonish the teacher against isolating sounds); secondly, all three linguistic programs appear to recognize the value of consonant letters. While S.R.A. and Merrill seem to assume an automatic association for the consonants, Harper is specific in stating as the "... primary objective in the preprimer stage--mastery of initial consonant letters in relation to initial consonant sounds" (9, p. 22), and in providing a few suggestions to help accomplish this association.

In teaching the graphonic units--the "word families"--and in placing emphasis on spelling the words to be read, linguists have outlined what they

consider word attack skills to be. Children are expected to use spelling or to recognize the known graphonic unit in an unknown word and then to unlock that word through substitution.

While we can categorically reject a spelling approach to reading, substitution exercises are contained in most basal readers. Here we must consider why. In a good basal reader, substitution of consonants in known words should be used to apply and to strengthen the consonant letter-sound associations. In other words, it is a practice activity. Anyone who thinks he is developing a method whereby children can attack new words independently is misled. For example, after giving a test of nonsense syllables, C-V-C pattern, to first graders, I made it a practice to talk with them about a few examples. I put g-o-p on the board, asked what they would call it, and then asked how they knew it was "gop." In classes where a synthetic program was used, children answered with the rule. In no class, however, did they suggest that it was like top, hop, etc., even though, in one first grade classroom, Hop on Pop was on the chalkrail just under the written syllable. Substitution is not a skill that leads to independence in word attack.

Emphasis on considerable oral reading--to relate print to talk--is not new to users of basal programs at the first grade level. However, the linguist has added direction or purpose to this reading with his effort to bring to a conscious level the child's control over the suprasegmental phonemes--pitch, stress, and juncture. This is important, and this is what the good first grade teacher does intuitively when she says, "No, Johnny, you didn't read that; you just said the words. Now read it the way you would talk if you were Jack." The good first grade teacher does not accept "saying the right words" for reading. Yet a conflict exists with the

linguists in that they want skill in the suprasegmental phonemes, but they do not want children to use semantic context in reading at this level. How can children--or anyone, for that matter--arrive at proper pitch and stress levels without using the context of what they are reading? Perhaps this is why, in S.R.A., after one try for expression, the teacher is told to forget it because "This is not the time to develop intonation of . . . expression." (8)

The use of oral and picture context is also avoided in all three programs. In fact, Merrill has no pictures at all, S.R.A. has "decorations," and the Harper series has pictures which avoid giving clues to sentence meaning.

Users of basal readers are accustomed--rightly or not--to teacher guides which are thorough in their directions and suggestions. The linguistic programs are much more limited in this respect. S.R.A. is particularly limited in suggestions, where directions for levels B through F indicate little more than the fact that these books are a continuation of the "word learning" in patterns as established in the guide for level A.

Suggestions for interpretative skills through discussion are practically non-existent. Either the teacher is merely encouraged to develop a few good questions for discussion (7), or a series of factual questions are provided. While the lack of guidance for interpretation relates in part to the nonsensical content (What can one discuss about "Nan ran a tan van"?), another aspect of the problem reflects the linguists' particular understanding of the act of reading.

WHAT IS READING:

C. C. Fries sums it up very well for the linguists when he says that "Learning to read, therefore, means developing a considerable range of

habitual responses to a specific set of patterns of graphic shapes. The teaching of beginning reading to children of four or five must be conceived not in terms of imparting knowledge, but in terms of opportunities for practice." (10, p. 121)

Fries then writes about the three levels of reading development, a discussion which was paraphrased and expanded by Walcutt (11). The first level Fries calls the "transfer" stage, where the child learns to transfer from the auditory signs to the visual signs for the language signals. This is not reading in my opinion; it is nothing more than making appropriate noises in response to printed symbols.

The second stage is one in which conscious effort is no longer required for transfer, and the suprasegmentals are handled appropriately. This is the level that Flesch had supposedly achieved in his famous reading of a Czech newspaper--fluent oral reading with no understanding.

The third stage is the point at which one can use reading as a means for acquiring ideas or experiences.

Credit must be given to Fries for a straightforward definition. We won't take the time for definitions by reading specialists because they would probably represent my reading at Fries' second stage of competence; most such definitions have become so involved that they make the teaching of reading sound like a receptacle for all mental processes.

I can accept the three stages of Fries' definition as one sequence required for the act of reading, i.e., at any level, one converts the printed symbol to the spoken language he knows and thinks with. But unless he reaches the level of meaning in the process, I could not accept the act as "reading."

To clarify this point, let's consider an analogy in the definition of sound: this phenomenon is the result of (1) some thing vibrating, (2) the vibration setting up shock waves in the air, and (3) these waves stimulating a receiving drum into sympathetic vibration which is converted to "sound" through electrical or nerve impulses. If a tuning fork is vibrated within a vacuum jar, there is no "sound" because there is no air to be stimulated. Then we can consider the old question: if a shell, with a sound radius of ten miles, explodes in a desert with no living creature within fifty miles, is there sound? Obviously the vibration sets off shock waves in the air, but our third element is missing: there is no receiver to convert the shock waves into "sound" before the waves are dissipated.

By the same token, the act we call "reading" must have its three elements: (1) the printed symbol (2) must be converted to the sounds represented by the symbols (vocally or subvocally), and (3) these sounds must be interpreted as meaningful utterances. I've never tried it, but conceivably a parrot could be taught to respond to a few printed symbols in terms of appropriate sounds. Would the linguist accept this as reading at the first stage?

You might wonder why all this to-do about a definition. We might be kind and say the definition is not really that important. However, I believe the definition is crucial: its implications can mean success or failure for many children in learning to "read" either by my definition or in learning to read at the third stage of the definition of Fries.

## WHAT DO WE KNOW ABOUT TEACHING READING?

We know that in traditional reading programs we are wasting much time at the early stages of reading. At the readiness level, we have been

concerned about experiences to provide referents for words to be read; we have been concerned about vocabulary development, about mental age, vision, and gross auditory and visual discrimination. In other words, we have greatly underestimated five-year-olds (12, 13). We have underestimated them in terms of their mastery of the language, the extent of their vocabularies and expe-riences, the physical development of their visual mechanism, and their dis-criminating abilities. Furthermore, in agreement with linguists, reading readiness is not learning to "read pictures" or to see differences between one-eared and two-eared rabbits. Reading readiness has to do with printed letters and with the sounds in spoken words.

Use of the alphabet by linguists, however, is neither adequate nor completely appropriate. Children do not need to know the alphabet in sequence in order to read; they need this only when they want to locate a word in an alphabetical list, such as a dictionary. (Fries recognizes this point in his professional book [10, p. 124] but ignores it in his reading program.) Furthermore, children do need to distinguish letter forms from one another, but they do not need to be drilled on letter names. In fact, there is some evidence that knowledge of letter names interferes with word attack. This point was investigated by Muehl (14), who found that children who had learned letter names had to pass through the stage of naming the letter before using the sound normally associated with that letter. The important letter skill at the pre-reading stage is the development of sound associations for the consonants, i.e., establishing the habit of reacting to the initial consonant b as representing the sound heard at the beginning of "bat."

Another feature of reading readiness ignored by the linguist has to do with the use of oral context. Children can be made aware of this skill

which they already possess at the oral level, and they can be prepared to transfer it to printed context, not as a means of guessing a word, but as a tool, along with the consonant letter-sound associations, to identify printed words.

The linguists' emphasis on vowels instead of consonant letter-sound associations at the initial stage is somewhat strange. Admittedly, vowels are the most fascinating because they are so inconsistent, but consonants provide the backbone of our printed language. They outnumber vowels almost two to one, and, because they are the most consistent, they are easiest to develop sound associations for. Of course, if context is not to be used, the reader must also have associations for vowels, and the graphemes must be carefully controlled in an artificial language as the linguist controls them, or the reader is completely lost. And herein lies a two-fold danger for the future. The vowel generalizations that are developed hold true only 60 to 70% of the time according to Clymer (15) and Burrows (16). In an analysis of Fitzgerald's 2650 basic words, this writer found 125 different letter-sound combinations for the 15 vowel sounds. The most frequently occurring vowel sound was /ə/, which represented twenty-five percent of the vowel sounds. This sound, of course is represented by any of the five vowels and by fifteen other combinations of these five letters.

Hanna (17), in his extensive computer study of 17,000 words, reported that grapheme-phoneme correspondence was 84% consistent when the words were analyzed phoneme by phoneme. However, in terms of whole words, he found that the language was only 49% consistent. Worse, these reports of the inconsistencies of the vowel representations do not take frequency of use into consideration. It doesn't take a linguist to realize that the most

frequently used words in our language are the structure words, and that these also contain the most irregular vowel representations. For example, the first five irregular words in S.R.A., and among the first ten in Merrill, are the five most frequently used words in English: I, and, the, a, to. These five words make up about 18% of the running words in written English. Does it help the child for us to indicate these necessary non-conformists as "circle words" or "box words" as Merrill and S.R.A. do? We might question the wisdom of emphasis on so blunt a tool as vowels when context and consonants can get children into meaningful materials sooner and easier.

Our own experience in comparing first graders in two school systems suggests a second weakness in a program emphasizing vowels (18). Reading achievement tests were administered at the end of first grade in the two comparable districts. One district had a basal reader plus a phonics program emphasizing vowels in first grade; the other used only a basal reader emphasizing context and consonants. A significant difference in total achievement favored the district not teaching vowels, despite the fact that these children were slightly lower in aptitude. Most interesting was the fact that the entire difference in achievement was reflected in one subtest--the test of reading comprehension.

Another question about this emphasis on phonemic control is the effect initial consistency can have when children get to the natural language with its inconsistencies. Levin (19) has suggested that children introduced to consistent patterns initially seem to develop a "mind-set" for consistency and to have more difficulty with the inconsistencies later than do children who faced up to their natural language from the start. Fry (20) also raised this question in conjunction with ITA.

Of course, this whole emphasis on vowels and phonemic control gets us back again to that difference in definition. Are we interested in reading as making appropriate noises, or are we interested in reading as a form of communication?

If we consider how children learn to recognize words, it is also doubtful that we would begin by emphasizing the vowel in its position as the middle letter in a trigram. In a study of cues used by children in recognizing words, Marchbanks and Levin (21) found that the first letter was used most often, then the last, then middle letters, and finally configuration. Again the point is made that initial consonants offer a more valuable aid than do the vowels, which are most often the medial letters.

Consistent with their definition, too, is the linguists' emphasis on learning words. True, as Fries (22) points out, the linguist "is not 'word-centered' in his approach" by being concerned about how many words a child knows the meaning of, as many teachers of reading seem to be. But that is not the only way in which reading can be word-centered. Unfortunately, many basal reading programs, emphasizing "word banks" and the like, are just as guilty of implying that reading is merely the accumulation of words. Reading is a skill, not an exercise in memorizing words. The way we introduce new words to children reveals our view of reading. Do we introduce new words by building all kinds of meaning for those words, so children will remember them when they come to those words in their reading? If so, then "reading" is "learning words." Do we list patterns of words and tell children what those words are? Then too, "reading" is "learning words." Or do we introduce the word in context, remind children to use the other words in the sentence and only as many consonant letters as they need to identify the new word? Then

reading is a skill, and the words are introduced in order to review the skill, not to teach the words. In fact, I feel that the child who doesn't remember the new word after it has been introduced may have an advantage because, when he comes to it in his reading, he has still another opportunity to practice this skill that we are trying to teach---a skill that will make him independent of "introducers" of new words.

It would seem that elimination of the use of context and the concomitant removal of clues to the suprasegmentals effectively reduces the act of reading to the reciting of words. This forces an additional handicap on the child: Goodman (23) found that children at first grade level could identify in context two-thirds of the words they did not know when those words were presented in list form. If we ignore context, and therefore also lose clues to the suprasegmentals, we might just as well consider the words in a running text as a horizontal word list.

The sacrifice of pitch, stress, and juncture to the artificial language of the linguists has been criticized by Lefevre (24), who considers the structural and intonational clues as the most valuable aids to reading. However, to capitalize on the suprasegmentals in the manner of Lefevre results in what amounts to a whole-sentence sight approach, with remedial phonics for those who don't learn to read without teaching (25, p. 6).

To get to a positive view, we have been living with too many "either-or" choices. We don't really have to make a choice between letter-by-letter phonics or whole-word reading as Rystrom implies (26); nor do we have to choose between linguistic readers or basal readers. Linguistics is not a method of teaching reading; it is a field of study from which we should be able to draw, just as we have drawn from the field of psychology. We should

be seeking communication between the two fields, not replacement of one with the other.

Our language is made up of phonemes, combined as morphemes, which are then woven into various syntactical patterns to express ideas. Even though the smallest units of the language are represented by graphemes, the reader does not need to piece together blindly the phonemes represented, without the aid of clues from a higher level of organization. Structural meaning, in the linguist's sense, is a contextual clue that reading teachers have neglected, if not completely ignored. This does not imply that structural meaning must replace semantic meaning; it is more likely a precursor of the latter.

The linguist has also provided the reading teacher with a clearer understanding of the suprasegmentals, although the linguist doesn't practice his knowledge at beginning levels of reading because of his insistence upon avoiding context.

As reported earlier, linguists have indicated that children have mastered the basic sentence patterns by age five. Yet, with the exception of Marquart (27), one finds little concern among linguists about the differences between spoken and written language. Marquart discusses the fact that conversation and "spoken prose" have quite different intonation patterns. We might go a step further with Smillie (28) and note that spoken language of any kind is quite different from the printed text. A look at Strickland's transcriptions (4) indicates that spoken language is non-linear, changing direction and including mazes, non-sentences, interjections, repetitions, and so on. The printed word is linear and proceeds in an orderly fashion. Children need not only their mastery of spoken language; they need a familiarity with the patterns of printed language. Teachers of reading have been

working on this point for years by saying to parents, "Read to your child." Now the linguist has given them a scientific reason for having parents read to their children.

Good reading-teachers have felt the importance of relating the child's first reading material to his spoken language and have tried to do this by having him read the way he would speak. Others have tried to accomplish this same goal also through the use of experience charts. The latter approach sacrifices the vocabulary control of basal readers and the phonemic control of linguistic approaches. Worse, either the teacher "cheats" a little to get simple basic sentences, or she misleads the child into believing his spoken pattern is the pattern he will meet on the printed page. Furthermore, she leaves him with no purpose for reading, since he already knows what he has said; reading for him becomes remembering what the words are.

I have limited my remarks to the early stages of reading because that is where the linguists have begun. There are possibilities, of course, in linguistic analyses of style at higher levels. An interesting sidelight is the effort of Bormuth (29) and Ruddell (30) on measures of readability. Readability formulae are mechanical devices which have left much to be desired, whether we used Spache, Dale-Chall, Flesch, or one of the lesser known types. Anytime one can classify Peter Pan, Little Men, and Les Miserables in the same 4.0 grade placement with Little Toot and Story About Ping, something is wrong! Since it is desirable that the means for estimating readability be objective, who better than the linguist can contribute to its improvement.

Any attempt to summarize these remarks only points up a previous statement: there can be no either-or choice. Neither all linguists nor all reading teachers can be identified with a few consistent statements. I would

expect linguists to make their greatest contribution in the study of English language. Their contribution in reading will more likely be in helping teachers of reading to understand the structure of the language and how it functions, so that reading can be taught more effectively. The linguist's insistence upon acknowledging structural meaning as opposed to semantic meaning is at once his greatest contribution and his greatest handicap in the teaching of reading: it is his greatest contribution because this point has been all but ignored by teachers who thought they recognized nouns <u>because</u> they named persons, places, or things; it is his greatest handicap because the beginning reader must realize from the start that reading is an act of communication, not a making of noises.

As we consider the job to be done--and the need to improve our methods of doing it--we must recognize the fact that these skills just discussed do not represent a complete picture of the elementary child's needs in reading. To paraphrase a best seller, what does it profit a child if he gain all skills but suffer the loss of the spirit. Children must also gain the attitude and understanding that reading can be fun--it can be exciting and it can be informative. The best teacher of reading is wasting her time developing reading skills if she is not, at the same time, developing an abiding interest in reading. She does the latter, not through drills in skills, but through varied opportunities to share, to discuss, and to react to the many good children's books that must surround the boys and girls in her classroom. The linguist will undoubtedly continue to contribute more to our understanding of the language, but it will probably remain for the teacher of reading to see that children develop initial skill in such a way that they also develop this avid interest in reading as a lifetime pleasure.

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